

AMENDMENTS
In the Claims

Current Status of Claims

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123.(currently amended) A cross-laminate comprising:

a first coextruded film A having a main direction of uniaxial or unbalanced biaxial molecular orientation and including:

a continuous main layer comprising a first polymer material selected to have a high tensile strength,

a continuous bonding layer comprising a second polymer material and disposed on a surface of the main layer, and

a plurality of substantially parallel film A first strands coextruded on a top surface of the bonding layer in a spaced apart configuration, and comprising a third polymer material different from the first and second polymer materials and comprising a polymer consisting essentially of a copolymer of ethylene having a melting point or a melting range within the temperature range of 50 - 100°C or a blend of such copolymer and LLDPE containing at least 25% of the copolymer, where a separation between adjacent film A first strands is no more than 8 cm measured from a middle of one strand to a middle of an adjacent strand,

a second coextruded film B having a main direction of uniaxial or unbalanced biaxial molecular orientation and including:

a continuous main layer comprising a fourth polymer material selected to have a high tensile strength,

a continuous bonding layer comprising a fifth polymer material and disposed on a surface of the main layer, and

a plurality of substantially parallel film B first strands coextruded on a top surface of the bonding layer in a spaced apart configuration, and comprising a sixth polymer material different from the fourth and fifth polymer materials, where a separation between adjacent film B first strands is no more than 8 cm measured from a middle of one strand to a middle of an adjacent strand,

where the film A and the film B are arranged such that their bonding layers and strands face each other and such that the film B main direction crosses the film A main direction and the film B first strands cross the film A first strands,

first bonds comprising points of intersection between the film A first strands and the film B first strands,

1 second bonds comprising contact lines between the film A bonding layer and the film B first
2 strands or the film B bonding layer and the film A first strands, and
3 third bonds comprising contact regions between the film A bonding layer and the film B
4 bonding layer, where the regions are devoid of the film A first strands and the film B first strands,
5 where the first bonds have a higher bond strength than a bond strength of the third bonds,
6 where the strands have a thickness of no more than 30% of a thickness of their respective
7 films at their thickest, and
8 where the strands comprise coextruded thin lines.

1 124.**(previously presented)** The cross-laminate according to claim 123, further comprising:
2 an exterior layer formed on an exterior surface of at least the film B comprising an exterior
3 layer polymer material adapted to enhance a surface property of the laminate, where the property is
4 selected from the group consisting of its heat-sealing capability and its frictional property.

1 125.**(previously presented)** The cross-laminate according to claim 123, wherein the second bonds
2 have a bond strength greater than the bond strength of the third bonds.

1 126.**(currently amended)** The cross-laminate according to claim 123, wherein the first bonds
2 comprise direct strand to strand lamination at the points of intersection between the film A first
3 strands and the film B first strands.

1 127.**(previously presented)** The cross-laminate according to claim 123, further comprising:
2 a continuous extrusion lamination layer introduced between the films A and B, and wherein
3 the first, second and third bonds further comprise portions of the continuous extrusion lamination
4 layer.

1 128.**(currently amended)** The cross-laminate according to claim 123, wherein a collective area
2 of the film A first strands and the film B first strands comprises no more than 60% of a surface area
3 of their respective film sides.

1 129.**(previously presented)** The cross-laminate according to claim 123, wherein a thickness

1 increase of the films A and B at their respective strand locations is at most 20% of a film thickness
2 of the films A and B in adjacent regions of the films A and B devoid of their respective strands.

1 130.**(previously presented)** The cross-laminate according to claim 123, wherein a thickness
2 increase of the films A and B at their respective strand locations is at most 10% of a film thickness
3 of the films A and B in adjacent regions of the films A and B devoid of their respective strands.

1 131.**(previously presented)** The cross-laminate according to claim 123, wherein a volume of the
2 film A strands and the film B strands is not greater than 15% of a volume of their respective films.

1 132.**(previously presented)** The cross-laminate according to claim 123, wherein a volume of the
2 film A strands and the film B strands is not greater than 10% of a volume of their respective films.

1 133.**(previously presented)** The cross-laminate according to claim 123, wherein a volume of the
2 film A strands and the film B strands is not greater than 5% of a volume of their respective films.

1 134.**(currently amended)** The cross-laminate according to claim 123, wherein the separation
2 between first strands on films A and B is between 2 mm and 40 mm measured from a middle of one
3 strand to a middle of an adjacent strand.

1 135.**(currently amended)** The cross-laminate according to claim 123, wherein the separation
2 between first strands on films A and B is at the highest 20 mm measured from a middle of one strand
3 to a middle of an adjacent strand.

1 136.**(previously presented)** The cross-laminate according to claim 123, wherein:
2 the bond strength of the first bonds is at least 40 g cm⁻¹, as measured by a peel test carried
3 out on narrow specimens of the cross-laminate at a velocity of about 1 mm sec⁻¹, and
4 the bond strength of the third bonds are less than or equal to 75% of the bond strength of the
5 first bonds, as measured by the peel test.

1 137.**(previously presented)** The cross-laminate according to claim 136, wherein the bond strength

1 of the third bonds are less than or equal to 50% of the bond strength of the first bonds, as measured
2 by the peel test.

1 138.**(previously presented)** The cross-laminate according to claim 123, wherein an average
2 melting point of the third polymer material and average melting point of the sixth polymer materials
3 are at least about 10°C lower than an average melting point of the first polymer material and an
4 average melting point of the fourth polymer material.

1 139.**(previously presented)** The cross-laminate according to claim 123, wherein an average
2 melting point of the third polymer material and average melting point of the sixth polymer materials
3 are at least about 15°C lower than an average melting point of the first polymer material and an
4 average melting point of the fourth polymer material.

1 140.**(previously presented)** The cross-laminate according to claim 123, wherein an average
2 melting point of the third polymer material and average melting point of the sixth polymer materials
3 are at least about 20°C lower than an average melting point of the first polymer material and an
4 average melting point of the fourth polymer material.

1 141.**(previously presented)** The cross-laminate according to claim 123, wherein the main layer of
2 each of the two films A and B consists essentially of polyethylene or polypropylene.

1 142.**(currently amended)** The cross-laminate according to claim 123, wherein:
2 the main layers are selected from the group consisting of HDPE, LLDPE or a blend of the
3 two, and
4 the bonding layers comprise LLDPE in admixture with 5 - 25% of a copolymer of ethylene
5 having a melting point or a melting range within the temperature range of 50 - 80°C, and
6 ~~the first strands comprise a polymer consisting essentially of a copolymer of ethylene having~~
7 ~~a melting point or a melting range within the temperature range of 50 - 100°C or a blend of such~~
8 ~~copolymer and LLDPE containing at least 25% of the copolymer.~~

1 143.**(previously presented)** The cross-laminate according to claim 123, wherein the bonding layers

1 include an adhesion modifying material adapted to establish a blocking of the contacting mutually
2 facing surfaces of the films A and B to each other in regions devoid the their strands.

1 144.**(currently amended)** The cross-laminate according to claim 123, wherein:
2 at least one of the films A and B further including a plurality of substantially parallel second
3 strands,
4 where the second strands comprise a polymer material differing in composition, color and/or
5 appearance from the ~~the~~ first strands and
6 where the first and second strands on the film A or film B are interspersed.

1 145.**(previously presented)** The cross-laminate according to claim 123, wherein the polymer
2 material of the strands of at least one of the films A and B includes a colored material that makes the
3 colored strands visible through at least one side of the cross-laminate.

1 146.**(previously presented)** The cross-laminate according to claim 145, wherein the cross-laminate
2 has a thickness at its thickest of about 0.3 mm, and:
3 wherein an exterior surface of the film A is corrugated to form a visible pattern of striations
4 extending in one direction,
5 where a spacing of the striations being at most about 3 mm,
6 the main layer and the bonding layer of the film A are substantially transparent to enable the
7 colored strands to be visible when the laminate is observed from one of the exterior surfaces of the
8 cross-laminate, and
9 a depth of the corrugations is sufficient to impart a three-dimensional effect to the cross-
10 laminate such that the strands appear to be spaced internally from the exterior surface of the film A
11 a distance substantially greater than an actual maximum thickness of the film A.

1 147.**(currently amended)** A cross-laminate according to claim 123, wherein the film A further
2 includes:
3 a second continuous bonding layer comprising an seventh polymer material and
4 disposed on a second surface of the main layer, and
5 a plurality of substantially parallel film A third strands coextruded on a top surface

1 of the second bonding layer in a spaced apart configuration and comprising an eighth
2 polymer material different from the first polymer material and seventh polymer
3 material, and
4 the cross-laminate further comprising:
5 a third film C having a main direction of uniaxial or unbalanced biaxial molecular
6 orientation and including:
7 a continuous main layer comprising a ninth polymer material having a high
8 tensile strength,
9 a continuous bonding layer comprising a tenth polymer material and disposed
10 on a surface of the main layer, and
11 substantially parallel film C first strands disposed on a top surface of the
12 bonding layer in a spaced apart configuration and comprising an eleventh
13 polymer material different from the ninth and tenth polymer materials,
14 where the film A and the film C are arranged such that their bonding layers and strands face
15 each other and such that the film C main direction crosses the film A main direction and the
16 film C first strands cross the film A third strands,
17 fourth bonds comprising points of intersection between the film A third strands and the film
18 C first strands,
19 fifth bonds comprising contact lines between the film A bonding layer and the film C first
20 strands or the film C bonding layer and the film A third strands, and
21 sixth bonds comprising contact regions between the film A bonding layer and the film C
22 bonding layer, where the regions are devoid of the film A third strands and the film C first strands,
23 where the fourth bonds have a higher bond strength than the sixth bonds.

1 148.**(previously presented)** The cross-laminate according to claim 147, further comprising:
2 an exterior layer formed on an exterior surface of at least the film B or the film C comprising
3 a polymer material adapted to enhance a surface property of the laminate, where the property is
4 selected from the group consisting of its heat-sealing capability and its frictional property.

1 149.**(new)** The cross-laminate according to claim 123, wherein the film A first strands and the
2 film B first strands are arranged in arrays, where distances between adjacent arrays of strands

1 measured from arrays center are the same or different and are between about 8cm and about 3 mm.

1 150.(new) The cross-laminate according to claim 144, wherein the film A first strands, the film
2 A second strands, the film B first strands and the film B second strands are arranged in arrays, where
3 a distance between adjacent arrays of strands measured from arrays center are the same or different
4 and are between about 8cm and about 3 mm.

1 151.(new) The cross-laminate according to claim 147, wherein the film A first strands, the film
2 A third strands, the film B first strands and the film C first strands are arranged in arrays, where a
3 distance between adjacent arrays of strands measured from arrays center are the same or different
4 and are between about 8cm and about 3 mm.